

**A Guide
on
Hazardous Waste Management
for Florida's
Fiber-Reinforced Plastic
Manufacturers**

Hazardous Waste (RCRA) Compliance Assistance Program



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This document was published to help educate businesses on hazardous waste management issues affecting them. The suggested options may help businesses to operate in an environmentally appropriate manner. Some of the options may go beyond what is required to remain in compliance with regulations. Business owners are responsible for obtaining complete information about applicable regulations. Misrepresentations or omissions by the Florida Department of Environmental Protection or the Florida Center for Solid and Hazardous Waste Management do not relieve any person from any requirement of federal regulations or Florida law.

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WHY SHOULD I CARE ABOUT HAZARDOUS WASTES?

As a business owner, operator or employee, you may be producing materials that can harm people and the environment.

This booklet offers helpful tips on how to:

- ▶ comply with federal and state hazardous waste regulations.
- ▶ avoid penalties by properly managing hazardous wastes.
- ▶ save money on disposal costs by reducing hazardous wastes.

Health and Environment

Hazardous wastes spilled or dumped on the ground or disposed of in dumpsters may seep into the groundwater and contaminate drinking water supplies.

Hazardous wastes may run off into the nearest body of water where they may poison or kill fish and other wildlife.

Hazardous wastes pose a health risk to you, your employees and your community.

Cost Savings

State and county inspectors may visit your business to ensure that hazardous wastes are being managed properly. State penalties may range from \$100 to \$50,000 per violation per day.

Reducing hazardous wastes can reduce your production and disposal costs and reduce your liability risk.



Public Image

Your customers will appreciate your efforts to prevent pollution.

Your community will recognize your business as a good neighbor.



WHAT IS A HAZARDOUS WASTE?

A waste is hazardous if:

- ▶ it has any of the characteristics described below.
- ▶ it is listed as a hazardous waste in the Code of Federal Regulations, 40 CFR Part 261.

Characteristic Wastes

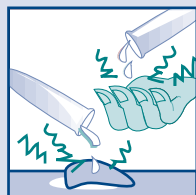
Ignitable

Ignitable wastes are easily combustible or flammable. If they have a flashpoint of less than 140°F or an alcohol content of 24% or more, they are hazardous wastes. Examples include some paints, paint solvents, other solvents and degreasers.



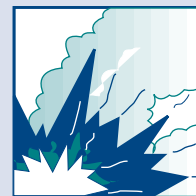
Corrosive

Corrosive wastes corrode metals or other materials or burn the skin. These liquids have a pH of 2 or lower or 12.5 or higher. Examples include rust removers, acid or alkaline fluids and battery acid.



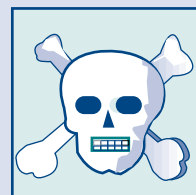
Reactive

Reactive wastes are unstable and react rapidly or violently with water or other materials. Examples include bleaches, oxidizers, cyanides and explosives, such as sodium azide and dynamite.



Toxic

Wastes are toxic if they contain certain heavy metals, such as chromium, lead or cadmium, or toxic organic chemicals. Examples include some parts cleaners, chromium-bearing paints and spray booth filters.



Listed Wastes

A waste is hazardous if it is listed in the Code of Federal Regulations, 40 CFR Part 261. For details on listed wastes and waste code numbers, contact the Florida Department of Environmental Protection. (See page 15 for DEP phone numbers.) The Code of Federal Regulations is available at most libraries or may be purchased from the U.S. Government Bookstore (phone (904) 353-

Acutely Hazardous Wastes

Small amounts of very dangerous wastes, such as arsenic and cyanide compounds, are regulated in the same way as large amounts of other wastes. A business that generates 2.2 pounds (1 kilogram) or more of these wastes per month is subject to full regulation under the hazardous waste rules.

Identifying Your Hazardous Wastes

It is very important to determine whether a waste is hazardous or non-hazardous. There are several ways to identify hazardous wastes.

- ▶ Obtain and read Material Safety Data Sheets (MSDS).
- ▶ Talk to product suppliers and manufacturers.
- ▶ Read product labels.
- ▶ Compare product and process information to hazardous waste characteristics and to wastes listed in federal regulations.
- ▶ If product or process information is not available or is inconclusive, have a commercial lab sample and test the waste using the TCLP test.
- ▶ A non-hazardous material or product may become a hazardous waste due to contaminants added during use. Lab testing may be necessary.



SOURCES OF HAZARDOUS WASTE



Fabrication

Gelcoat and Resin Applications

Gelcoat, which is about 35% styrene, and other resins are a primary source of hazardous wastes in the form of excess gelcoat and resin. Resin wastes can be minimized with equipment that has greater transfer efficiency. Reducing waste saves money and makes cleanup easier.

Liquid Wastes

Some of the most common solvents used for cleaning equipment, hands and resins are hazardous. Examples include acetone, mineral spirits, paint/lacquer thinners and solvent distillation bottoms from solvent recovery units.

Solid Wastes

Hazardous solid wastes may include unsolidified resins, excess putty and adhesives that have not hardened, solvent distillation bottoms from solvent recovery units, spray booth filters and solvent-contaminated towels, wipes and rags.

Cleanup

Rags contaminated with used oil or solvents may be a hazardous waste. If your shop washes rags, water must be discharged to a publicly owned sanitary sewer, not a storm sewer, septic tank or cesspool. If you use a towel service, make sure the company discharges its water to a publicly owned sewer system.

Disposable rags or paper towels used with hazardous substances should be disposed of as hazardous wastes. They should not be disposed of in a dumpster.

TYPICAL HAZARDOUS WASTES

Styrene

A primary component of gelcoat and other polyester resins.

Flash point: 90°F.
Corrodes copper.
Affects the central nervous system, lungs, skin.

Methyl Ethyl Ketone Peroxide (MEKP)

May be explosive.

Flash point: 185°F.
May react strongly with other substances. Refer to MSDS.
Incompatible with very strong oxidizers, acids, bases.
Skin and nose irritant.
Can cause blindness.
Affects lungs and central nervous system.

Acetone

Flash point: 0°F.
Incompatible with acids and oxidizers.
Irritant for eyes, nose, throat and skin.
Central nervous system depressant.



Acetone Substitutes

Various high flash point acetone substitutes are available, such as propylene carbonate and dibasic ester (DBE). However, the spent material may be ignitable due to mixture with ignitable resins and gelcoats. If you change your process to use an acetone substitute, waste should be tested prior to disposal.

For more information on hazardous wastes, contact DEP.
(See page 15 for DEP phone numbers.)

HOW SHOULD I MANAGE HAZARDOUS WASTES?

First, determine how much hazardous waste you generate each month. The rules you must follow depend on how much you generate, how much you store, and how long you store it.

- ▶ Less than 220 pounds (100 kilograms or about half a drum): you are a "Conditionally Exempt Small Quantity Generator."
- ▶ 220 - 2,200 pounds (100 - 1,000 kilograms or about half a drum to 5 drums): you are a "Small Quantity Generator."
- ▶ More than 2,200 pounds (1000 kilograms or more than about 5 drums): you are a "Large Quantity Generator."

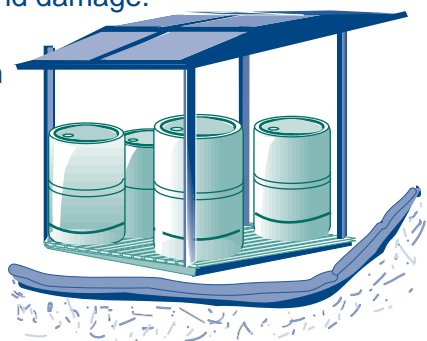
The following practices may be required for your business. Additional information is available from DEP.

Containers

- ▶ Maintain containers in good condition. Prevent leaks, ruptures and accumulation of rainwater on tops of drums.
- ▶ If a container leaks, transfer waste to a new container.
- ▶ Keep containers closed and use self-closing funnels when adding waste.
- ▶ Wastes must be compatible with the container. For example, use HDPE plastic containers for corrosive wastes.
- ▶ Never place incompatible wastes, such as wastes that react with each other (acids and bases), in the same container.

Storage

- ▶ Maintain adequate aisle space between container rows to allow inspection for leaks and damage.
- ▶ Store ignitable and reactive wastes at least 50 feet from property boundaries.
- ▶ Store containers of incompatible wastes in separate areas.
- ▶ Be aware of allowable time limits for storage.



Labels

- ▶ Label every container with the type of waste and whether it is hazardous or non-hazardous.
- ▶ Include federal waste code numbers.
- ▶ Include the accumulation start date (the date when waste was first placed in the drum).
- ▶ Include your business's name and address.
- ▶ Use the following words on labels for hazardous wastes:

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
If found, please contact the nearest police or public
safety authority or the U.S. EPA

(Your business's name and address and
manifest document number)

Transport and Disposal

- ▶ Make sure your transporter and disposal facility have EPA identification numbers.
- ▶ Use manifests for all hazardous wastes shipped offsite.

Inspections and Recordkeeping

- ▶ Inspect containers at least once a week and keep a written log of container inspections.
- ▶ Keep training and inspection records for 3 years.
- ▶ Keep manifests and shipping receipts for 3 years.
- ▶ Keep records of lab tests for 3 years.
- ▶ Keep land disposal restriction forms for 5 years.

Training

- ▶ Train all employees to identify, reduce and properly handle wastes.
- ▶ Train new employees before they handle hazardous wastes.

HOW CAN I REDUCE HAZARDOUS WASTES?

Reducing hazardous wastes in your shop makes good business sense. Benefits include:

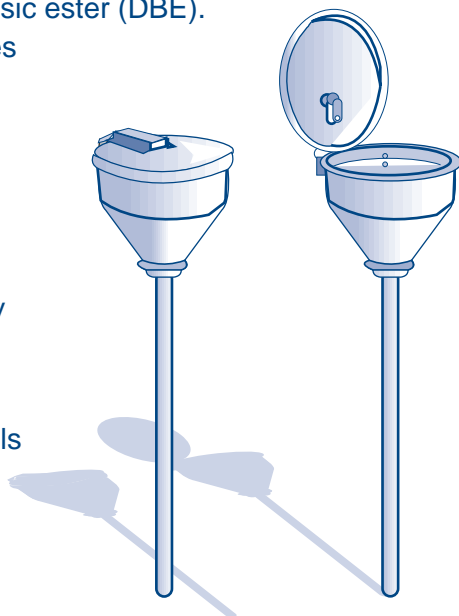
- ▶ Saving money on waste management costs.
- ▶ Reducing concerns about penalties and liability.
- ▶ Creating a safer, healthier workplace.

How Do I Begin?

- ▶ Make a commitment to reducing wastes in every area of your business.
- ▶ Evaluate your shop's wastes and identify areas where changes can be made.
- ▶ Encourage the participation of all employees through education, training and incentives.

Solvents

- ▶ Reduce solvent waste by replacing solvent only when necessary.
- ▶ Replace organic solvents with emulsifiers.
- ▶ Replace acetone and other solvents with non-hazardous solvents, such as propylene carbonate, or less hazardous solvents, such as dibasic ester (DBE).
- ▶ Recycle solvent wastes on-site in a distillation unit and reuse them.
- ▶ Reduce solvent rinse usage by using squeegees to remove excess resins.
- ▶ Use a two-stage cleaning process (dirty solvent followed by clean rinse) to reduce solvent usage.
- ▶ Use self-closing funnels to add waste to containers.

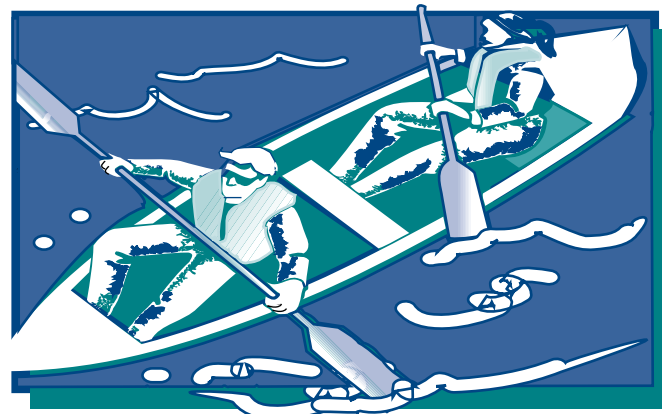


Training

- ▶ Train employees to use solvents and chemicals correctly and efficiently, using minimal amounts required to get the job done.

Fabrication

- ▶ Reduce resin waste by using flow cutters, airless sprayers and power rollers.
- ▶ Consider using non-spray resin application methods.
- ▶ Reduce overspray by changing spray orientation.
- ▶ Replace high-pressure air systems with airless or air-assisted equipment to reduce fogging, overspray and bounceback.
- ▶ Prevent contamination of resin buckets.



Shop Practices

- ▶ Minimize inventory and use a "first-in, first-out" system to prevent the need for disposal of old, unused materials.
- ▶ Store raw materials and wastes in closed containers in a covered area protected from rain and sunlight.
- ▶ Use drip trays under solvent storage drums.
- ▶ Prevent leaks and spills. Keep floors clean.
- ▶ Use the least hazardous type of floor cleaner available.
- ▶ For dirty rags, use an approved laundry service that discharges its water to a publicly owned sewer system.
- ▶ Do not discharge wastes to the ground surface. Plug floor drains.

WHO NEEDS TO KNOW IF MY BUSINESS GENERATES HAZARDOUS WASTES?

Notify DEP

- ▶ If your business is a small or large quantity generator, notify DEP to obtain an EPA identification number. Local environmental agencies should also be notified.



Notify Local Authorities

- ▶ Police and fire departments and local hospitals who would respond to an emergency need to know that there are hazardous wastes on your property.



Designate an Emergency Coordinator

- ▶ This person must know what to do in case of a fire, spill or other emergency and must be on the premises or on call 24 hours a day.



Develop a Contingency Plan

Guidance on contingency plans is available from DEP. Large quantity generators must have a written plan that includes:

- ▶ Emergency response arrangements with police, fire, hospitals and emergency response contractors.
- ▶ Emergency coordinators' addresses and phone numbers.
- ▶ On-site emergency equipment descriptions and locations.
- ▶ Evacuation plan and routes, including a site diagram.



Post Emergency Information

Post the following information near every telephone:

Fire department phone number
Emergency coordinator's name and phone number
Locations of fire alarms and extinguishers
Locations of spill control materials

CHECKLIST



This checklist will help you to prevent the most common hazardous waste violations.

For more detailed information on hazardous waste management requirements, contact DEP.

- ☐ Identify types and quantities of hazardous wastes.
- ☐ Determine how much hazardous waste is generated.
- ☐ Notify Florida DEP and obtain an EPA identification number from DEP.
- ☐ Use proper containers to collect and store wastes.
- ☐ Label all containers as hazardous or non-hazardous wastes.
- ☐ Include accumulation start dates on labels.
- ☐ Keep containers of hazardous waste closed.
- ☐ Maintain aisle space between containers for inspection.
- ☐ Inspect containers weekly for rust, leaks or damage.
- ☐ Train employees to properly handle hazardous wastes.
- ☐ Designate an emergency coordinator.
- ☐ Notify police, hospitals and fire department.
- ☐ Post emergency information near each phone.
- ☐ Develop a contingency plan for emergencies.
- ☐ Use manifests for all waste transported for disposal.
- ☐ Keep all records for at least 3 years.

WHERE CAN I GET MORE INFORMATION?

Additional information on hazardous waste reduction and regulations is available from many sources.

Florida Department of Environmental Protection

District offices and the Tallahassee office offer technical assistance, fact sheets and other publications on hazardous waste regulations.

- ▶ **Hazardous Waste Compliance Assistance Program**
Phone: (800) 741-4337
(904) 488-0300
Fax: (904) 921-8018

Available publications include:

Summary of Hazardous Waste Regulations
Requirements for Conditionally Exempt Small Quantity Generators
Requirements for Small Quantity Generators
Handbook for Small Quantity Generators of Hazardous Waste

Florida Small Business Assistance Program

The Small Business Assistance Program helps businesses with environmental concerns and problems related to compliance with air regulations. Assistance is confidential and staff experts have business experience.

- ▶ Phone: (800) 722-7457

U.S. Environmental Protection Agency

The EPA has published a series of industry-specific guidelines and handbooks on preventing pollution and complying with hazardous waste regulations.

- ▶ **RCRA Hotline**
Phone: (800) 424-9346

Your Trade Associations

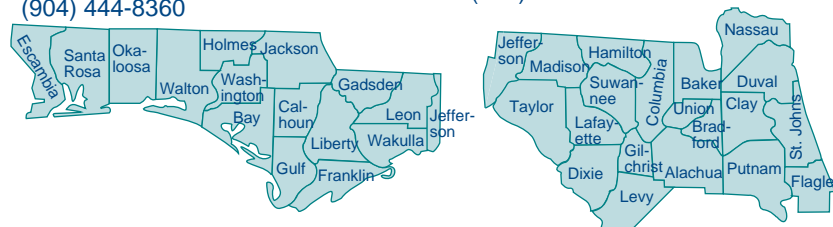
Many trade associations have published guides to help you find solutions to your hazardous waste management problems.

OFFICES OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Hazardous Waste Regulation Section
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(904) 488-0300

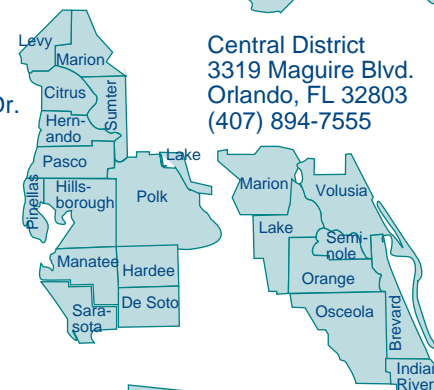
Northwest District
160 Government Center
Pensacola, FL 32501
(904) 444-8360

Northeast District
7825 Baymeadows Way, Suite 200B
Jacksonville, FL 32256
(904) 448-4300

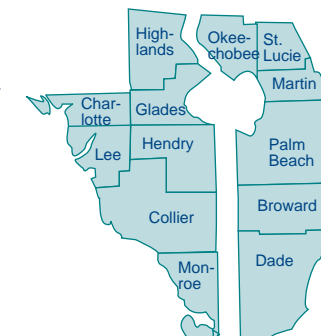


Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
(813) 744-6100

Central District
3319 Maguire Blvd.
Orlando, FL 32803
(407) 894-7555



South District
2295 Victoria Ave., Suite 364
Fort Myers, FL 33901
(941) 332-6975



Southeast District
400 N. Congress Ave.
West Palm Beach, FL 33401
(561) 681-6600

